

REMARKS/ARGUMENTS

The majority of the above amendments are made to make the claims more clear, as suggested by the Examiner. Specifically, “comprising” as used in claim 1 was reverted to the original language “is made from”; units were added and standardized, the ranges for the MI were more clearly recited, and claim 17 was amended to recite “consisting of” rather than “consisting essentially of”. These amendments are made for clarity purpose only and do not add new matter.

The Applicant has also amended the claims to recite that the foamed sheet has a density reduction in the range of from 10 to 50%. This limitation is supported at page 5, lines 4-9. As such this amendment does not add new matter and its entry is courteously solicited.

Claim 11 was objected to, for inconsistency in reporting the units for density. This has been corrected in the above amendments, and thus this objection is respectfully requested to be withdrawn.

Claim 1 was rejected under 35 USC § 112 first paragraph, as the Examiner felt that the previous amendment added subject matter not originally disclosed in the specification. Applicant has reverted back to the original language in the above amendments, thus making this rejection moot. Claims 1-6, 8, 9, and 11-14 are rejected under 35 USC § 112 second paragraph. Applicant believes that the various issues identified by the Examiner have been addressed by the above amendments, and therefore courteously requests that the Examiner withdraw all of the rejection based on 35 USC § 112.

Claims 1-6 and 11-14 are rejected under 35 USC 102(b) as being anticipated by Nakamura et al (US 4,649,001). The foamed sheets of the present invention are fundamentally different from those taught in Nakamura, in that the present films have high tear strength. In the present application it is discussed at page 5, line 7, how when the density is reduced, the tear strength decreases. It is also discussed at page 3 line 2 that physical blowing agents are used when density reductions greater than 50% are desired. Nakamura teaches the use of physical blowing agents (see col. 2, lines 36-50) and further states at col. 3, line 50, that the foam produced, will have a foaming ratio of 5 to 50. Given the use of physical blowing agents and the foaming

ratios presented, it is therefore submitted that these films will not meet the MD tear limitation stated in the claim. However, to make this point abundantly clear, Applicant has added a further limitation, expressly stipulating that the density reduction is from 10 to 50%. While the question of whether Nakamura's films meet the MD tear limitation can be surmised, the density limitation is expressly stated to be well outside the range now claimed. A foaming ratio of five (as stated in Nakamura) corresponds to an 80% density reduction while a foaming ratio of 50 results in a 98% density reduction. These values far exceed the upper limits now claimed. Accordingly, the film of claim 1 is clearly not taught or suggested by Nakamura.

As to the dependent claims, special mention is made of the blow up ratio (claim 13 and 22) and the land length to die gap ratio (claims 12 and 21), as it is believed that these parameters further encourage films which can be foamed yet retain high MD tear strength. The references cited by the Examiner do not teach that such ranges are beneficial in this regard, and so it is respectfully submitted that these limitations are a separate source for a finding of patentability.

Claims 17, 18 and 20-22 are rejected under 35 USC § 102(b) as being anticipated by Kelch (US 5,000,992). Applicant has amended these claims to recite "consisting of" rather than "consisting essentially of". Accordingly for the reasons previously presented for claim 1 regarding Kelch, applicants request that this rejection be withdrawn.

Claims 2, 17, 18, 21 and 22 are rejected under 35 USC §103(a) as being unpatentable over Nakamura et al. Applicant respectfully requests that these rejections be withdrawn as Nakamura fails to disclose films having the requisite MD tear strength or proper range of density reduction as explained above.

Claims 1-6, 8, 9, 11-14, 17, 18 and 20-22 are rejected under 35 USC §103(a) as being unpatentable over DeVaudreuil et al. (US 6,114,025). Like Nakamura, DeVaudreuil relates to a fundamentally different type of foam than what is presently being claimed. At col. 5, lines 65, DeVaudreuil teaches the use of physical blowing agents, and more importantly at col 6, lines 52-54 DeVaudreuil teaches that the foams produced are generally of a density of from 10 to about 150 kg/m³. Given that the unfoamed resins of DeVaudreuil will have a density greater than 900 kg/m³, this represents a density reduction of at least 83%, which is far above the upper limit now

claimed. Accordingly, it is respectfully submitted that DeVaudreuil does not teach films which would meet the MD tear strength, and which clearly does not meet the density reduction limitations of the present claims. Applicant therefore courteously requests that the rejections based on DeVaudreuil be reconsidered and withdrawn.

In the Office action, the Examiner has acknowledged that DeVaudreuil fails to suggest the claimed sheet thickness, but states that it would have been within the bounds of routine experimentation. It is respectfully submitted, however, that it may not be possible to produce a sheet having the indicated thickness using the teachings of DeVaudreuil. In general, when making foams with the level of density reduction taught by DeVaudreuil, the cell size is much larger than when the density reduction is smaller. When reducing the thickness of the sheets, at some point the cells become so large in relation to the sheet thickness that the integrity of the sheet fails. Thus, lower sheet thickness as claimed in the present application is not simple a matter of routine experimentation. This again points to the fundamental difference between the foams of DeVaudreuil and Nakamura, as compared to the presently claimed thin foams having good MD tear properties.

Claim 21 was rejected under 35 USC §103(a) as being unpatentable over by Kelch (US 5,000,992) as evidenced by Chen et al (US 5,286,525) and Esneault et al. (WO 96/16122). For the reasons given above with respect to claim 17, it is respectfully requested that these rejections be withdrawn.

Claims 12 and 21 were also rejected under 35 USC §103(a) as being unpatentable over Nakamura or DeVaudreuil in light of Hughes et al (US 3,963,403). For the reasons given above with respect to Nakamura and DeVaudreuil, it is respectfully requested that these rejections be withdrawn.

Accordingly, it is respectfully submitted that the claims as amended are patentable over all of the art cited by the Examiner. Withdrawal of the rejections and a Notice of Allowance is now courteously solicited.

Appln. No. 10/560,732
Response dated October 30, 2009
Reply to Office Action of July 31, 2009

Respectfully submitted,

/James T. Hoppe/
James T. Hoppe
Registration No. 35,899
Phone: 979-238-9039

P. O. Box 1967
Midland, MI 48641-1967

JTH/mr